AMENDMENTS TO THE CLAIMS

1. (currently amended) A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

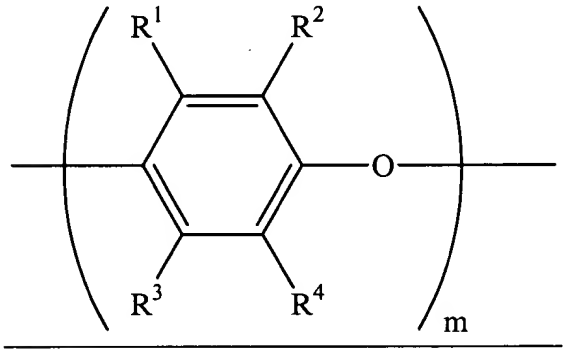
an acryloyl monomer; and

a conductive agent;

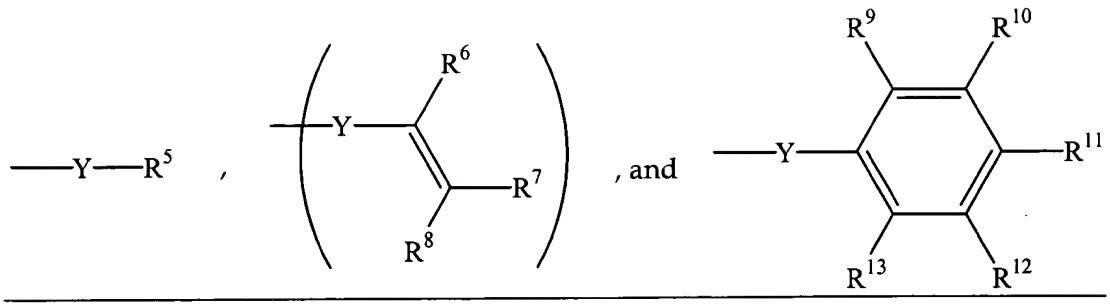
wherein the functionalized poly(arylene ether) is a capped poly(arylene ether) having the structure

$Q(J\text{-}K)_y$

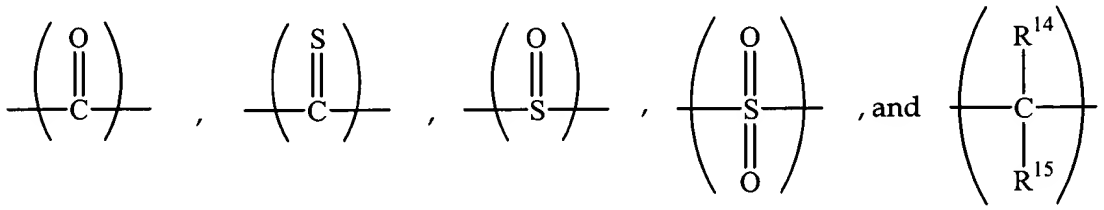
wherein Q is the residuum of a monohydric, dihydric, or polyhydric phenol; y is 1 to 100; J consists of recurring units having the structure



wherein R^1-R^4 are each independently selected from the group consisting of hydrogen, halogen, primary or secondary C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_1-C_{12} aminoalkyl, C_1-C_{12} hydroxyalkyl, phenyl, C_1-C_{12} haloalkyl, C_1-C_{12} hydrocarbonoxy, and C_2-C_{12} halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; m is 1 to about 200; and K is a capping group selected from the group consisting of



wherein R^5 is C_1-C_{12} alkyl; R^6-R^8 are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate; R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino; and wherein Y is a divalent group selected from the group consisting of



wherein R^{14} and R^{15} are each independently selected from the group consisting of hydrogen and C_1-C_{12} alkyl.

2. (canceled)

3. (currently amended) [The composition of Claim 2,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

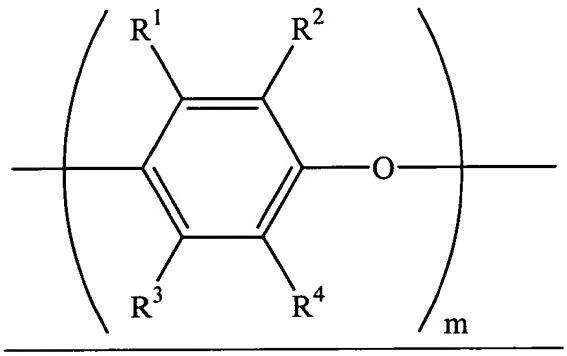
an acryloyl monomer; and

a conductive agent;

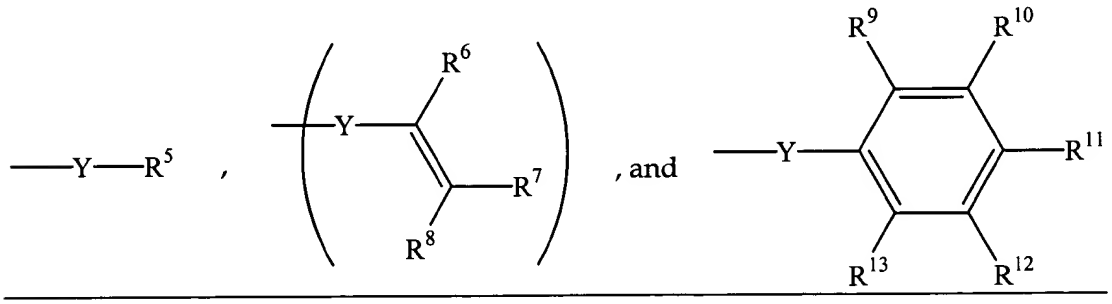
wherein the functionalized poly(arylene ether) is a capped poly(arylene ether) having the structure

$Q(J\text{-}K)_y$

wherein Q is the residuum of a monohydric phenol; y is 1 to 100; J comprises recurring units having the structure

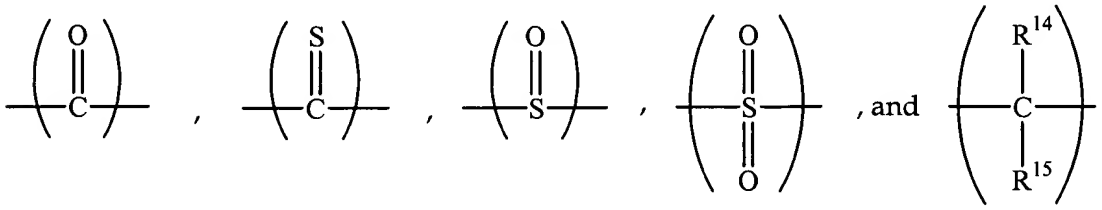


wherein R^1-R^4 are each independently selected from the group consisting of hydrogen, halogen, primary or secondary C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_1-C_{12} aminoalkyl, C_1-C_{12} hydroxyalkyl, phenyl, C_1-C_{12} haloalkyl, C_1-C_{12} hydrocarbonoxy, and C_2-C_{12} halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; m is 1 to about 200; and K is a capping group selected from the group consisting of



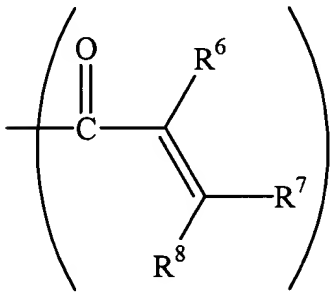
wherein R^5 is C_1-C_{12} alkyl; R^6-R^8 are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-

C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate; R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino; and wherein Y is a divalent group selected from the group consisting of



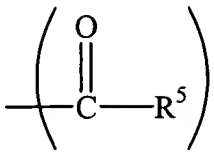
wherein R^{14} and R^{15} are each independently selected from the group consisting of hydrogen and C_1-C_{12} alkyl.

4. (currently amended) The composition of Claim [2] 1, wherein the capped poly(arylene ether) comprises at least one capping group having the structure



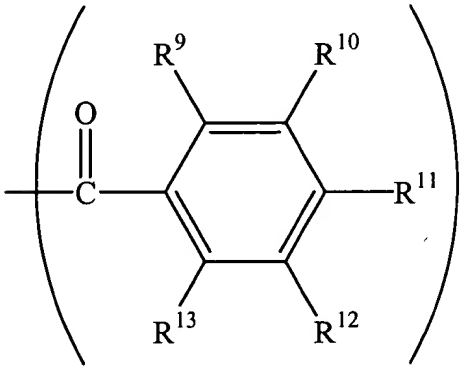
wherein R^6-R^8 are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate.

5. (currently amended) The composition of Claim [2] 1, wherein the capped poly(arylene ether) comprises a capping group having the structure



wherein R^5 is C_1-C_{12} alkyl.

6. (currently amended) The composition of Claim [2] 1, wherein the capped poly(arylene ether) comprises at least one capping group having the structure



wherein R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino.

7. (original) The composition of Claim 6, wherein at least one of R^9 and R^{13} is hydroxyl.

8. (currently amended) [The composition of Claim 7,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

an acryloyl monomer;

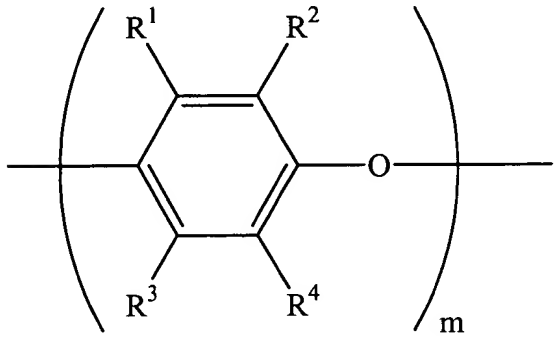
a conductive agent; and

[further comprising further comprising] a multivalent metal ion selected from Groups IIA, IIIA, and IB-VIIIB of the periodic table;

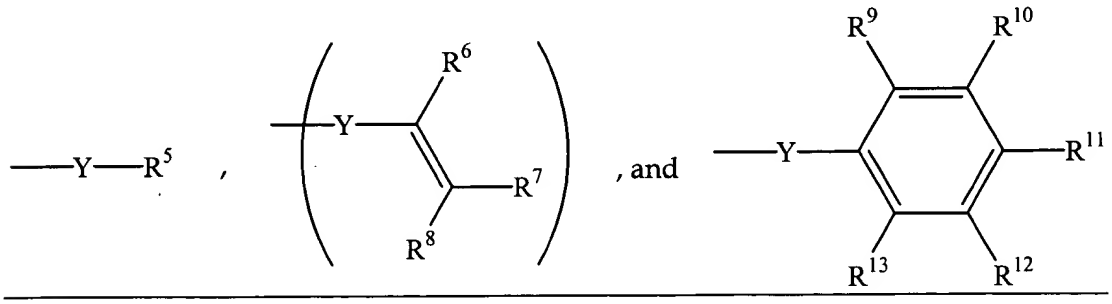
wherein the functionalized poly(arylene ether) is a capped poly(arylene ether) having the structure

$Q(J\text{-}K)_y$

wherein Q is the residuum of a monohydric, dihydric, or polyhydric phenol; y is 1 to 100; J comprises recurring units having the structure

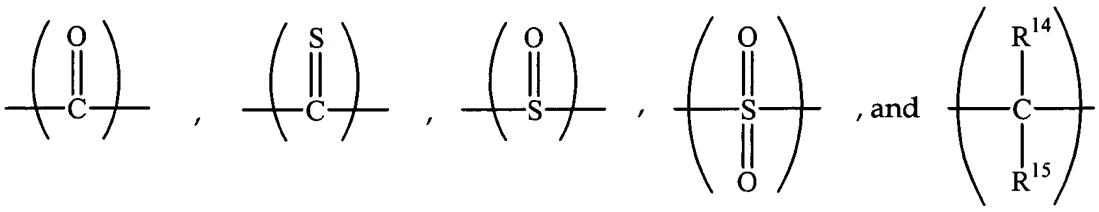


wherein R^1-R^4 are each independently selected from the group consisting of hydrogen, halogen, primary or secondary C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_1-C_{12} aminoalkyl, C_1-C_{12} hydroxyalkyl, phenyl, C_1-C_{12} haloalkyl, C_1-C_{12} hydrocarbonoxy, and C_2-C_{12} halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; m is 1 to about 200; and K is a capping group selected from the group consisting of



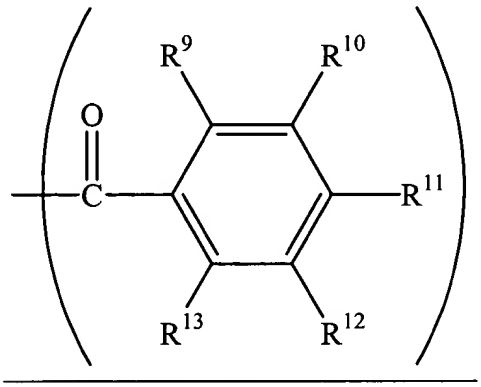
wherein R^5 is C_1-C_{12} alkyl; R^6-R^8 are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted

aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate; R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino; and wherein Y is a divalent group selected from the group consisting of



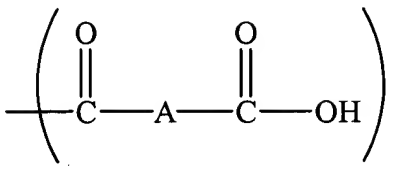
wherein R^{14} and R^{15} are each independently selected from the group consisting of hydrogen and C_1-C_{12} alkyl; and

wherein the capped poly(arylene ether) comprises at least one capping group having the structure



wherein R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino, with the proviso that at least one of R^9 and R^{13} is hydroxyl.

9. (currently amended) The composition of Claim [2] 1, wherein the capped poly(arylene ether) comprises at least one capping group having the structure



wherein A is a saturated or unsaturated C_2-C_{12} divalent hydrocarbon group.

10. (currently amended) [The composition of Claim 9,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

an acryloyl monomer;

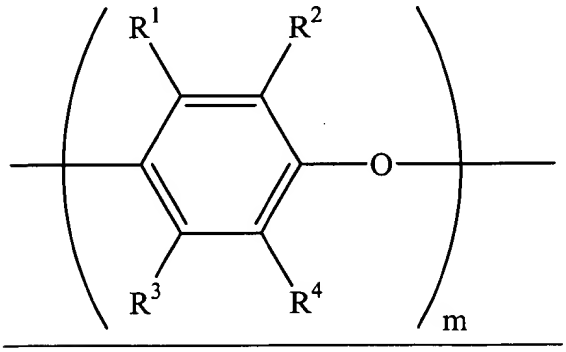
a conductive agent; and

[further comprising] a multivalent metal ion selected from Groups IIA, IIIA, or IB-VIIIB of the periodic table.

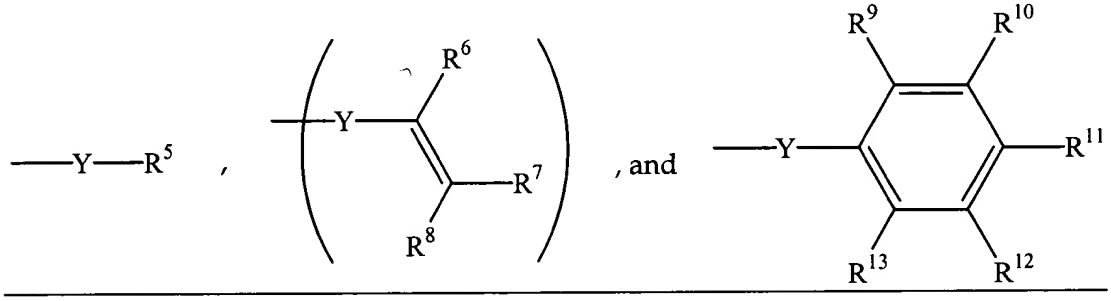
wherein the functionalized poly(arylene ether) is a capped poly(arylene ether) having the structure

$Q(J\text{-}K)_y$

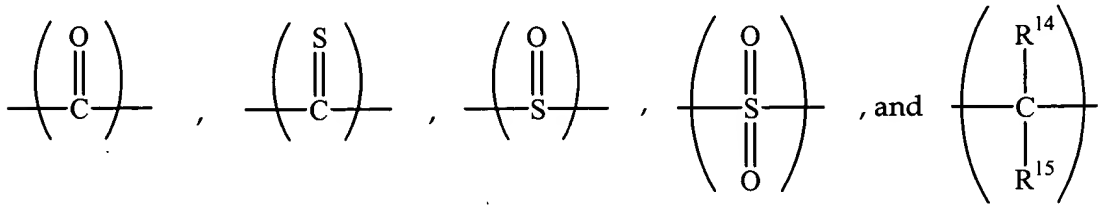
wherein Q is the residuum of a monohydric, dihydric, or polyhydric phenol; y is 1 to 100; J comprises recurring units having the structure



wherein R^1-R^4 are each independently selected from the group consisting of hydrogen, halogen, primary or secondary C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_1-C_{12} aminoalkyl, C_1-C_{12} hydroxyalkyl, phenyl, C_1-C_{12} haloalkyl, C_1-C_{12} hydrocarbonoxy, and C_2-C_{12} halohydrocarbonoxy wherein at least two carbon atoms separate the halogen and oxygen atoms; m is 1 to about 200; and K is a capping group selected from the group consisting of

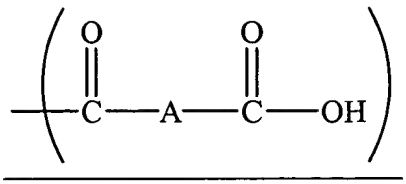


wherein R^5 is C_1-C_{12} alkyl; R^6-R^8 are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate; R^9-R^{13} are each independently selected from the group consisting of hydrogen, halogen, C_1-C_{12} alkyl, hydroxy, and amino; and wherein Y is a divalent group selected from the group consisting of



wherein R^{14} and R^{15} are each independently selected from the group consisting of hydrogen and C_1-C_{12} alkyl; and

wherein the capped poly(arylene ether) comprises at least one capping group having the structure



wherein A is a saturated or unsaturated C_2-C_{12} divalent hydrocarbon group.

11. (currently amended) [The composition of Claim 1,] A thermoset composition, comprising:

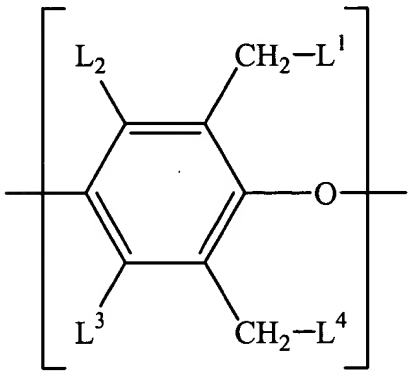
a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

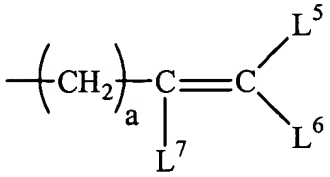
an acryloyl monomer; and

a conductive agent;

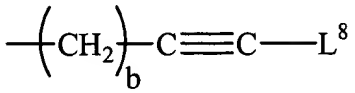
wherein the functionalized poly(arylene ether) is a ring-functionalized poly(arylene ether) comprising repeating units having the structure



wherein each L^1-L^4 is independently hydrogen, an alkenyl group, or an alkynyl group; wherein the alkenyl group is represented by



wherein L^5-L^7 are independently hydrogen or methyl, and a is an integer from 1 to 4; wherein the alkynyl group is represented by



wherein L^8 is hydrogen, methyl, or ethyl, and b is an integer from 1 to 4; and wherein about 0.02 mole percent to about 25 mole percent of the total L^1-L^4 substituents in the ring-functionalized poly(arylene ether) are alkenyl and/or alkynyl groups.

12. (currently amended) [The composition of Claim 1,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

an acryloyl monomer; and

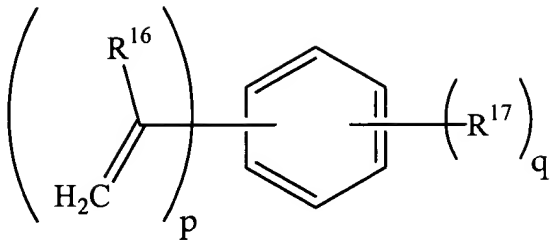
a conductive agent;

wherein the functionalized poly(arylene ether) is substantially free of amine substituents.

13. (original) The composition of Claim 1, wherein the functionalized poly(arylene ether) has an intrinsic viscosity of about 0.15 to about 0.30 deciliters per gram measured at 25°C in chloroform.

14. (original) The composition of Claim 1, comprising about 1 to about 70 parts by weight of the functionalized poly(arylene ether) per 100 parts by weight total of the functionalized poly(arylene ether), the alkenyl aromatic monomer, and the acryloyl monomer.

15. (original) The composition of Claim 1, wherein the alkenyl aromatic monomer has the structure

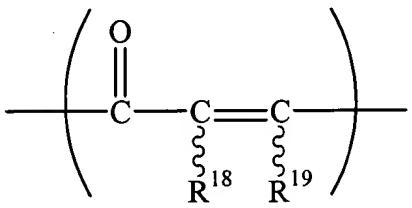


wherein each R^{16} is independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, and C_6-C_{18} aryl; each R^{17} is independently selected from the group consisting of halogen, C_1-C_{12} alkyl, C_1-C_{12} alkoxyl, and C_6-C_{18} aryl; p is 1 to 4; and q is 0 to 5.

16. (original) The composition of Claim 1, wherein the alkenyl aromatic monomer comprises at least one alkenyl aromatic monomer selected from the group consisting of styrene, alpha-methylstyrene, 2-methylstyrene, 3-methylstyrene, 4-methylstyrene, 2-t-butylstyrene, 3-t-butylstyrene, 4-t-butylstyrene, 1,3-divinylbenzene, 1,4-divinylbenzene, 1,3-diisopropenylbenzene, 1,4-diisopropenylbenzene, styrenes having from 1 to 5 halogen substituents on the aromatic ring, and mixtures comprising at least one of the foregoing alkenyl aromatic monomers.

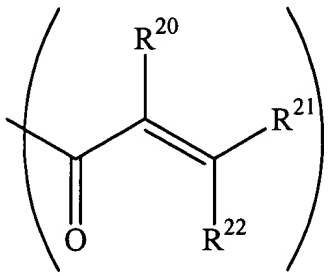
17. (original) The composition of Claim 1, comprising about 30 to about 98 parts by weight of the alkenyl aromatic monomer per 100 parts by weight total of the functionalized poly(arylene ether), the alkenyl aromatic monomer, and the acryloyl monomer.

18. (original) The composition of Claim 1, wherein the acryloyl monomer comprises at least one acryloyl moiety having the structure



wherein R^{18} and R^{19} are each independently selected from the group consisting of hydrogen and C_1-C_{12} alkyl, and wherein R^{18} and R^{19} may be disposed either *cis* or *trans* about the carbon-carbon double bond.

19. (original) The composition of Claim 1, wherein the acryloyl monomer comprises at least one acryloyl moiety having the structure



wherein R^{20}-R^{22} are each independently selected from the group consisting of hydrogen, C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_6-C_{18} aryl, C_7-C_{18} alkyl-substituted aryl, C_7-C_{18} aryl-substituted alkyl, C_2-C_{12} alkoxycarbonyl, C_7-C_{18} aryloxycarbonyl, C_8-C_{18} alkyl-substituted aryloxycarbonyl, C_8-C_{18} aryl-substituted alkoxycarbonyl, nitrile, formyl, carboxylate, imidate, and thiocarboxylate.

20. (original) The composition of Claim 19, wherein the acryloyl monomer comprises at least two acryloyl moieties.

21. (original) The composition of Claim 19, wherein the acryloyl monomer comprises at least three acryloyl moieties.

22. (original) The composition of Claim 1, wherein the acryloyl monomer comprises at least one acryloyl monomer selected from the group consisting of trimethylolpropane tri(meth)acrylate, 1,6-hexanediol di(meth)acrylate, ethylene glycol di(meth)acrylate, propylene glycol di(meth)acrylate, cyclohexanedimethanol di(meth)acrylate, butanediol di(meth)acrylate, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, isobornyl (meth)acrylate, methyl (meth)acrylate, and mixtures comprising at least one of the foregoing acryloyl monomers.

23. (original) The composition of Claim 1, comprising about 1 to about 69 parts by weight of the acryloyl monomer per 100 parts by weight total of the functionalized poly(arylene ether), the alkenyl aromatic monomer, and the acryloyl monomer.

24. (original) The composition of Claim 1, wherein the conductive agent is selected from the group consisting of graphite, conductive carbon black, conductive carbon fibers, metal fibers, metal particles, and particles of intrinsically conductive polymers.

25. (currently amended) [The composition of Claim 1,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

an acryloyl monomer; and

a conductive agent; wherein the conductive agent comprises graphite.

26. (currently amended) [The composition of Claim 1,] A thermoset composition, comprising:

a functionalized poly(arylene ether);

an alkenyl aromatic monomer;

an acryloyl monomer; and

a conductive agent; wherein the conductive agent comprises conductive carbon fibers having an average diameter of about 3.5 to about 500 nanometers.

27. (original) The composition of Claim 1, comprising about 5 to about 95 weight percent conductive agent, based on the total weight of the composition.

28. (original) The composition of Claim 1, further comprising a curing catalyst.

29. (original) The composition of Claim 28, wherein the curing catalyst is selected from the group consisting of benzoyl peroxide, dicumyl peroxide, methyl ethyl ketone peroxide, lauryl peroxide, cyclohexanone peroxide, t-butyl hydroperoxide, t-butyl benzene hydroperoxide, t-butyl peroctoate, 2,5-dimethylhexane-2,5-dihydroperoxide, 2,5-dimethyl-2,5-di(t-butylperoxy)-hex-3-yne, di-t-butylperoxide, t-butylcumyl peroxide, alpha,alpha'-bis(t-butylperoxy-m-isopropyl)benzene, 2,5-dimethyl-2,5-di(t-butylperoxy)hexane, dicumylperoxide, di(t-butylperoxy isophthalate, t-butylperoxybenzoate, 2,2-bis(t-butylperoxy)butane, 2,2-bis(t-butylperoxy)octane, 2,5-dimethyl-2,5-di(benzoylperoxy)hexane, di(trimethylsilyl)peroxide, trimethylsilylphenyltriphenylsilyl peroxide, 2,3-dimethyl-2,3-diphenylbutane, 2,3-trimethylsilyloxy-2,3-diphenylbutane, and mixtures comprising at least one of the foregoing curing catalysts.

30. (original) The composition of Claim 28, further comprising a curing promoter.

31. (original) The composition of Claim 30, wherein the curing promoter is selected from the group consisting of cobalt naphthanate, N,N-dimethylaniline, N,N-diethylaniline, and mixtures comprising at least one of the foregoing curing promoters.

32. (original) The composition of Claim 1, further comprising an additive selected from the group consisting of flame retardants, flame retardant synergists, mold release agents and other lubricants, antioxidants, thermal stabilizers, ultraviolet stabilizers, pigments, dyes, colorants, anti-static agents, fibrous reinforcements, disc-shaped fillers, low-aspect ratio fillers, synthetic resins, natural resins, thermoplastic elastomers, low profile additives, and combinations comprising at least one of the foregoing additives.

33-46. (canceled)

47. (new) The thermoset composition of claim 1, wherein R^1 and R^3 are each independently hydrogen or methyl, and R^2 and R^4 are each methyl.